

**AIRCRAFT ACCIDENT
IDENTIFICATION
NO.**

10/17
H8
A25-1
Ser: 1354

1 MAR 1956

ORIGINAL
SEVENTH ENDORSEMENT on VMA-324 AAR ser 11-55 concerning AD-4B.
BuNo. 128938 accident occurring 17 Oct 55,
pilot GROHNE

From: Commanding General, Aircraft, Fleet Marine Force, Atlantic
To: Chief of Naval Operations (OP-57)
Via: Director, U. S. Naval Aviation Safety Center

Subj: VMA-324 AAR ser 11-55; submission of

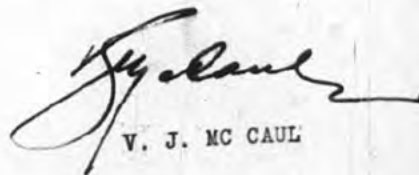
1. Forwarded concurring with the recommendations contained in the Aircraft Accident Report and with the comments contained in the endorsements thereto. This Headquarters agrees with the sixth endorsement relative to the conclusion and concurs that the specific cause of this accident is undetermined.

2. It is noted that the pilot in this instance went two nights in succession just prior to this accident without any sleep although he did have approximately eight hours rest during the intervening daytime. Since the human system does not readily and rapidly adapt itself to a complete reversal of living habits, this Headquarters considers that fatigue from all night planning immediately preceding this pre-dawn take-off, might well have been a contributory factor in this accident. This Headquarters feels that, unless there are overriding factors to the contrary, pilots selected to plan and fly a long range special weapons mission should be chosen from those pilots who are relatively fresh and rested.

3. It appears in the AAR Account and in certain enclosures thereto, that considerable confusion existed during the night rendezvous with numerous aircraft airborne, aircraft spotted for take-off in random order, and aircraft from some units flying into and out of the rendezvous area of other units. Such a situation at night is hazardous to say the least and undoubtedly required the pilot to focus his attention more on keeping a sharp lookout than on his flight instruments.

4. The original only of this correspondence was received by this Headquarters, hence it is forwarded without copies.

Copy to:
BUAER (2)
COMAIRLANT
CAG-6
USS LAKE CHAMPLAIN
COMCARDIV 2
COMSIXFLT
CG MAG-31 (REIN) (2)
NAVAVNSAFGEN (2)
CO VMA-324
BAR ElSegundo, Calif.


V. J. MC CAUL

1

ORIGINAL

FF4-2

A25

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1042

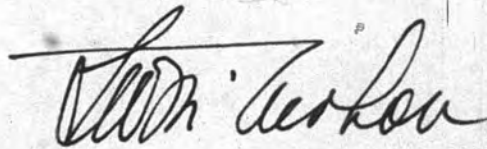
13 FEB 1956

SIXTH ENDORSEMENT on VMA-324 AAR ser 11-55 concerning AD-4B, 128938
accident occurring 17 Oct 1955, pilot GROHNE

From: Commander Air Force, U.S. Atlantic Fleet
To: Chief of Naval Operations (OP 57)
Via: (1) Commanding General, Aircraft, Fleet Marine Force, U.S.
Atlantic Fleet
(2) Director, U.S. Naval Aviation Safety Center

Subj: Aircraft Accident Report.

1. Readdressed and forwarded, concurring in general in the conclusions and recommendations of the Aircraft Accident Board and the endorsements thereto.
2. The investigation of the Aircraft Accident Board indicates that the most probable cause of this accident is pilot error. The evidence available, however, does not positively establish that the pilot erred in either technique, judgment or violation of standing orders as defined in OPNAVINST 3710.16. Likewise, the facts presented do not preclude such cause factors as could be attributed to physiological, material, or other non-pilot caused factors.
3. In view of the above, the cause factor of this accident is considered to be undetermined with pilot error the most probable cause.



E. W. McMAHON

Copy to:
BUAER (2)
COMSIXTHFLT
COMCARDIV 2
CO, USS LAKE CHAMPLAIN
COMCVG-6
CO, VMA-324

C6F/312/md

A25

Ser

10

5 JAN 1956

FIFTH ENDORSEMENT on VMA-324 AAR Ser 11-55 concerning AD-4B BuNo 128938
accident occurring 17 October 1955, pilot GROHNE

From: Commander Sixth Fleet
To: Chief of Naval Operations (Op-57)
Via: (1) Commander Air Force, U.S. Atlantic Fleet
(2) Director, Naval Aviation Safety Center

Subj: Aircraft Accident Report; forwarding of

1. Forwarded, concurring in the conclusions and recommendations of the
Aircraft Accident Board and the remarks contained in the previous
endorsements.

R. A. OFSTIE
R. A. OFSTIE

Copy to:
BUAER (2 direct)
NAVAVSATFEN (2 direct)
COMCARDIV TWO
CO, USS LAKE CHAMPLAIN (CVA-39)
CVG-6
CO, VMA-324

FB2/A25
B:CHH:wes
Ser: 707

10 DEC 1955

FOURTH ENDORSEMENT on VMA-324 AAR Ser 11-55 concerning AD-4B BuNo
128938 accident occurring 17 October 1955, pilot
GROHNE

From: Commander Carrier Division TWO
To: Chief of Naval Operations (Op-57)
Via: (1) Commander SIXTH Fleet
(2) Commander Air Force, U.S. Atlantic Fleet
(3) Director, Naval Aviation Safety Center

Subj: Aircraft Accident Report; forwarding of

1. Forwarded, concurring with the conclusions and recommendations of
the Aircraft Accident Board and previous endorsements thereto.

R. Goldthwaite

R. GOLDTHWAITE

Copy to:
CO, USS LAKE CHAMPLAIN (CVA-39)
CAG-6
CO, VMA-324

CVA39/A25
04:BMB:dag
Ser: 2646

26 NOV 1955

THIRD ENDORSEMENT on VMA-324 AAR Ser 11-55 concerning AD-4B
BuNo. 128938 accident occurring 17 October
1955, pilot GROHNE

From: Commanding Officer, U.S.S. LAKE CHAMPLAIN (CVA-39)
To: Chief of Naval Operations (Op-57)
Via: (1) Commander Carrier Division TWO
(2) Commander Sixth Fleet
(3) Commander Air Force, U.S. Atlantic Fleet
(4) Director, Naval Aviation Safety Center

Subj: Aircraft Accident Report; forwarding of

1. Forwarded, concurring with the remarks and recommendations of the first and second endorsements.
2. Steps are being taken to carry out all recommendations of the Aircraft Accident Board with the possible exception of recommendation 5. However, this is a good suggestion and should be followed through.


JAMES H. FLATLEY

Copy to:
CO, VMA-324
CAG-6

ORIGINAL

COMMANDER CARRIER AIR GROUP SIX
CARE OF FLEET POST OFFICE
NEW YORK, NEW YORK

15 November 1955

SECOND ENDORSEMENT on VMA-324 AAR ser 11-55 concerning AD-4B BuNo. 128938
accident occurring 17 October 1955; Pilot GROHNE

From: Commander Carrier Air Group SIX
To: Chief of Naval Operations (OP-57)
Via: (1) Commanding Officer, U.S.S. LAKE CHAMPLAIN (CVA-39)
(2) Commander Carrier Division TWO
(3) Commander Sixth Fleet
(4) Commander Air Force, U.S. Atlantic Fleet
(5) Director, Naval Aviation Safety Center

Subj: Aircraft Accident Report; forwarding of

1. Forwarded, concurring in the recommendations of the Aircraft Accident Board and the remarks contained in the first endorsement.

2. This command concurs that vertigo was probably the cause of this accident, but does not agree with the accident board that the pilot should probably have been flying on instruments. During a rendezvous where a group of aircraft are flying in a comparatively restricted airspace, it is impossible for each pilot to fly entirely on instruments, although frequent reference to flight instruments must be made. This brings up the question of the adequacy of the flight instruments now installed in present day aircraft. This command firmly believes that the primary attitude flight instrument must give the pilot a picture at all times of the aircraft's attitude. He must be able to ascertain at a glance the flight attitude of his aircraft and furthermore, this picture must not be subject to misinterpretation and must be reliable. It is the opinion of this command that with the exception of the Lear attitude gyro horizon, none of the attitude gyro horizons presently installed in carrier aircraft including the P-1 Bendix gyro type (R-88-I-1325-020), installed in the crashed aircraft, are satisfactory from either a presentation or performance point of view. The Lears' new NAFLI system looks like it might be by far the best attitude presentation available in the near future for installation in carrier aircraft.

3. It is, therefore, recommended that a suitable attitude instrument be installed in all aircraft. This instrument should enable a pilot to recognize and correct immediately any unusual attitude that he might get himself into.

4. The recommendation concerning furnishing the LSO with an ARC-27 set or other radio facilities to communicate with airborne aircraft on other than land launch frequency is strongly concurred in. A similar installation is also recommended for the forward part of the island super structure. These stations would be manned during both day and night flight operations to warn aircraft in the vicinity of the ship that are getting dangerously low. This set up and watch would probably pay equal dividends to the wheel watches now established at all naval air stations.

5. Emphasis on maintenance and pilot use of radio altimeters and low altitude warning lights should also be stressed.

6

J. E. LACOUTURE

ORIGINAL

FFLA/VMA-324
Adj/JS/bbj
A25
5 November 1955

FIRST ENDORSEMENT on VMA-324 AAR Ser 11-55 concerning AD-4B BUNO 128938
accident occurring 17 October 1955, Pilot GROHNE

From: Commanding Officer, Marine Attack Squadron 324
To: Chief of Naval Operations (OP-57)
Via: (1) Commander, Carrier Air Group Six
(2) Commanding Officer, USS Lake Champlain (CVA-39)
(3) Commander, Carrier Division Two
(4) Commander, Sixth Fleet
(5) Commander, Air Force, U. S. Atlantic Fleet
(6) Director, Naval Aviation Safety Center

Subj: VMA-324 AAR Ser 11-55; submission of

1. Forwarded, concurring with the recommendations and conclusions of the Aircraft Accident Board subject to the following remarks.
2. The recommendations contained in items one (1), two (2) and three (3) paragraph thirty-three (33), of the subject Aircraft Accident Report, are being complied with and shall continue to be most strongly emphasized.
3. While pilot fatigue is not considered to be a factor in this accident, it is highly recommended that a firm policy, regarding the frequency of day and night carrier operations, be established for use by units conducting maximum range low level flights of six (6) to twelve (12) hours duration. In the formation of such a policy pilot flight planning time must receive due consideration.
4. It is desired to add the strongest possible emphasis to item number 5, paragraph thirty-three (33) of the subject Aircraft Accident Report.

K. L. Reusser
K. L. REUSSER

(b) (5)

(b) (5)

THE AIRCRAFT ACCIDENT BOARD SHALL SUBMIT THIS REPORT TO THE C.O. OF THE ACTIVITY CONDUCTING THE INVESTIGATION. IT SHALL THEN BE FORWARDED BY THE C.O. IN ACCORDANCE WITH CURRENT AAR INSTRUCTIONS.

1. DATE OF ACCIDENT 17 Oct 55		2. ACTIVITY SUBMITTING REPORT 0523B Marine Attack Squadron 324		3. AAR SERIAL NO. 11-55	
4. MODEL A/C AD-4B 128938		5. CHECK DAMAGE TO A/C <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E		6. REPORTING CUSTODIAN OF A/C Marine Attack Sqd. 324	
7. NAME OF UNIT OPERATING THE A/C Marine Attack Sdc. 324 USS Lake Champlain		8. LOCATION OF ACCIDENT 35°35'N 20°44.8'E		9. PERSONNEL INVOLVED Richard Raymond GROHNE, 2dLt, (b) (6) USMCR24 ServGrp 1 A	
10. PILOT EXPERIENCE TOTAL HOURS 748.5 INSTRUMENT HOURS 39.5 NIGHT HOURS 61.4 CYLANDINGS DAY/NITE 43/6		11. CHECK IF: <input checked="" type="checkbox"/> 1. INDEPENDENT INVESTIGATION <input checked="" type="checkbox"/> 2. INDEPENDENT INVESTIGATION <input checked="" type="checkbox"/> 3. INDEPENDENT INVESTIGATION		12. PURPOSE OF FLIGHT Special Weapons Delivery	
13. TYPE OF ACCIDENT A/C Flew Into Water		14. WEATHER <input checked="" type="checkbox"/> VFR <input type="checkbox"/> IFR <input type="checkbox"/> CLOUDS		15. MANEUVER INVOLVED B Orbit Subsequent to Rendezvous	
16. WIND DIRECTION NR		17. FORCE NR		18. CEILING Unknown	
19. VISIBILITY Unknown		20. DARKNESS Unkn		21. CLEARANCE ISSUED Unkn	
22. AIRCRAFT AND ENGINE DATA		23. CONTRIBUTORY FACTORS		24. CHECK CONDITIONS INVOLVED IN THIS ACCIDENT	

25. EMERGENCY CONDITIONS <input type="checkbox"/> IMMEDIATE FORCED LANDING <input type="checkbox"/> PRECAUTIONARY LANDING <input type="checkbox"/> ENGINE FAILURE <input type="checkbox"/> FUEL EXHAUSTION OR NEAR EXHAUSTION		26. PERSONNEL SAFETY EQUIPMENT USED <input checked="" type="checkbox"/> PARACHUTE <input type="checkbox"/> EJECTION SEAT <input checked="" type="checkbox"/> SHOULDER HARNESS <input checked="" type="checkbox"/> SAFETY BELT <input type="checkbox"/> EXPOSURE SUIT <input checked="" type="checkbox"/> G-SUIT <input checked="" type="checkbox"/> PROTECTIVE HELMET <input checked="" type="checkbox"/> OXYGEN EQUIP.	
27. ENCLOSURES AND DISTRIBUTION CHECK OFF LIST.		28. SIGNATURES OF BOARD MEMBERS	

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

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	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

4	PILOT	5	PILOT EXPERIENCE	6	PILOT EXPERIENCE
5	ENG. OFF.	6	ENG. OFF.	7	ENG. OFF.
1-3	CAT. OFF.	2	CAT. OFF.	3	CAT. OFF.
6-7	WITNESSES	7	WITNESSES	8	WITNESSES
	OTHERS		OTHERS		OTHERS
	PHOTOGRAPHS		PHOTOGRAPHS		PHOTOGRAPHS
	DRAWINGS		DRAWINGS		DRAWINGS
	WEATHER REPORT		WEATHER REPORT		WEATHER REPORT
	LOADING MANIFEST		LOADING MANIFEST		LOADING MANIFEST

29. The Accident

On 17 October 1955, Second Lieutenant Richard R. GROHNE (b) (6) USMCR, was scheduled for a pre-dawn launch as the special weapons (simulated) delivery pilot in a flight of nine aircraft. In addition Lieutenant GROHNE had been assigned navigational responsibilities both to and from the target area and the other eight (8) aircraft in the flight had the mission of escort and flak (simulated) suppression. For this flight Second Lieutenant GROHNE was assigned AD4B, BuNo 128938.

The mission was of an approximate six (6) hours total duration, with an estimated launch at 0430, 17 October 1955, and had been assigned to the squadron at approximately 2100 on 16 October 1955, as a part of the fleet exercises being conducted. From interviews with other members of Second Lieutenant GROHNE's squadron, it was learned that Lieutenant GROHNE spent the remainder of that night, until scheduled briefing time at 0330, in flight planning (low-level navigation and routes, fuel consumption, personal equipment and communication procedures). From these interviews Second Lieutenant GROHNE remained up all night and had no sleep the night prior to the accident; however, the other members stated that he showed no apparent signs of fatigue during the pre-flight briefing by Major (b) (6) flight leader of the escort aircraft. Further, it was learned that Second Lieutenant GROHNE had been squadron duty officer on 15 October 1955, and had been awake all that night manning the squadron ready room. However, a statement from one of Lieutenant GROHNE's roommates, see enclosure (3), indicates that he went to bed at about 0900 on 16 October and remained in bed all day until about 1700, a period of approximately eight hours. During the pre-flight briefing, the flight was instructed to make a clearing turn to starboard, proceed upwind for two (2) minutes in a slow climb and turn back to the ship for rendezvous at one thousand (1000) feet in a left orbit off the starboard beam of the carrier. After rendezvous, the flight was to proceed on course, with Second Lieutenant GROHNE assuming the lead, at an altitude of five hundred (500) feet until dawn and then lowering to two hundred (200) feet with the escort aircraft flying in divisions of four aircraft on either side and slightly stepped-up.

Second Lieutenant GROHNE was launched in AD4B, BuNo 128938, at 0444B on a normal deck launch. At the time of launch, he had full internal fuel, plus three hundred (300) gallons of external fuel in one tank mounted on the centerline pylon of his aircraft. No visible discrepancies were noted by members of the carrier deck crew during take-off, i.e., "popping" or backfiring, and his aircraft appeared to be operating normally. Radio contact among the carrier, Second Lieutenant GROHNE and other members of the flight was excellent.

After flight was launched, Second Lieutenant (b) (6) arrived at the pre-briefed rendezvous area first and proceeded to establish the rendezvous orbit with Second Lieutenant GROHNE joining in the third position. As the fourth man, Major (b) (6) to join was coming in, he heard Second Lieutenant GROHNE make a radio transmission to the effect that he would move to the outside and follow the flight in a loose column until the rendezvous was completed. He was observed by Major (b) (6) to start moving out of the echelon and at this time, Major (b) (6) completed his joining and assumed the lead of the flight for the remainder of the rendezvous. Major (b) (6) observed Second Lieutenant GROHNE to be flying 200-300 feet outside the rendezvous echelon and slightly to the rear, and, at this time, concentrated on rendezvousing the remainder of the flight.

The flight was very slow in completing its rendezvous due to the fact that there were several other aircraft from other units flying into and out of the rendezvous area which made rendezvous difficult. During the course of this rendezvous, and before completion, Second Lieutenant GROHNE was instructed by the carrier to go to "button 8" on his UHF radio, for which he "rogered" and stated that he was going to "button 8". This was the last transmission heard from Lieutenant GROHNE by the other members of his flight; however, he did check in with the ship on this net after switching channels.

ORIGINAL

As the flight completed its rendezvous, the Landing Signal Officer, standing on the LSO's platform, observed an aircraft, trailing the flight, to be slowly losing altitude and flying into the water. The LSO attempted to call the aircraft via his radio, but was unable to establish contact, and observed the lights of the aircraft to go out at the water's level, at a distance of 3/4-1 mile from the port quarter of the ship.

After it was notified by the LSO that there was an aircraft in the water, the carrier identified all aircraft still airborne by radio communications and received no answer from Second Lieutenant GROHNE. At daybreak an intensive search was begun for the missing pilot and aircraft. There was no trace found of the pilot and of the plane, only a broken external fuel tank and an oil slick. The search was continued for a period of approximately eleven (11) hours to no further avail. The body of the pilot was not recovered.

30. Damage to Aircraft

AD4B, BuNo 1a8938 was not recovered and is assumed to have received strike damage. The only trace found of it was a broken external fuel tank and an "oil slick".

31. The Investigation

The investigation of the accident revealed the following facts:

- a. The pilot was on an authorized flight and was qualified to pilot the aircraft at night from a carrier.
- b. On October 13 and 14, Lieutenant GROHNE completed uneventful night flights from the carrier.
- c. Lieutenant GROHNE was considered by other pilots in his squadron to be an above average pilot.
- d. There was no evidence of any malfunctioning of the aircraft or equipment.
- e. Lieutenant GROHNE did not have any sleep for two nights prior to the accident, however, he did have approximately eight hours sleep during the day preceeding the accident.
- f. The apparent discrepancy between the LSO's statement of seeing an aircraft fly into the water off the port quarter and the fact that Lieutenant GROHNE's flight was to rendezvous on the starboard side of the ship is accounted for in the ship's log showing a course change from 240°, the launch course, to 058° prior to the time when the aircraft was seen to fly into the water.
- g. All pilots interviewed concurred that it was a very dark night, no horizon, with brilliant lightning flashes in the distance. There was a broken ceiling at 2300-2500 feet with no moon or stars visible.
- h. Second Lieutenant GROHNE had completed his rendezvous and opened to the outside as briefed.
- i. Radio communications were good, both plane-to-plane and plane-to-ship and all airborne aircraft were set up on the same UHF channelization.
- j. Second Lieutenant GROHNE effected his rendezvous on channel 7, land-launch, primary. He then individually switched to channel 8 on the carrier's instructions, and had good communications with the ship on channel 8 prior to the accident.
- k. The witnessing LSO had two-way UHF radio communications on channel 7, land-launch frequency only.

l. Seventeen aircraft were airborne during this launch and rendezvousing in close proximity to one another.

m. Lieutenant GROHNE was equipped with a lip type microphone which is activated by a spring switch located on the throttle.

n. Further interrogation of Lieutenant (b) (6) see enclosure (4), indicated that Lieutenant GROHNE's altitude at the time of sighting was approximately 400 to 500 feet. Slightly left wing down, blinking bright lights holding the element ahead of his (Lieutenant GROHNE's) one o'clock position and in a gradual descent until striking the water approximately 15 seconds after initial sighting. Lieutenant GROHNE's flight, as described by Lieutenant (b) (6) was as follows: Leading element of approximately 1000 feet, the second element of more than one aircraft approximately 1/8 mile behind and below the final element. Lieutenant GROHNE approximately 1/2 mile aft of the second element. The flight was in a port, relatively gentle orbit. Lieutenant GROHNE's direction of flight was approximately 40° starboard of the flight leader.

o. Lieutenant GROHNE's transmissions prior to the accident were loud and clear, with no apparent anxiety in the inflection of his voice.

32. The Analysis

The pilot of this aircraft, though relatively inexperienced in night operations, is considered to have had the qualifications for the conduct of his flight. It is noted that his total night hours during the past 12 months was 51.4 hours. He had only 6.7 night hours in the three months preceding this flight. However, he had two recent night flights, one three days and one four days prior to the accident. These two flights involved take-off and landing from the carrier and were conducted during very dark, moonless nights.

The board considered the possibility of engine or material failure in this accident. However, due to the fact that there had been no evidence of malfunction, this possibility seems unlikely. Further, Lieutenant GROHNE had experienced good communications both on channel 7, which he had been on in rendezvous, and channel 8 which he apparently was on at the time of the accident, as evidenced by his conversation with the ship and verified by Lieutenant Junior Grade (b) (6) whose statement is enclosed. It seems logical that even a sudden failure would have provided him with time to transmit any difficulties encountered. It is definitely felt that the means for such a transmission was available to the pilot, but that no such transmission was made.

Facts derived from the written statement and further verbal interrogation of the eye witness to this accident, Lieutenant (b) (6) (statement enclosed) indicates that the aircraft was at 400 to 500 feet at the time of sighting, in a gradual slightly left wing down bank, and continued this attitude in a gradual descent until striking the water some approximate 15 seconds after initial sighting. Assuming the flight leader with his element was of the assigned 1000 feet; the second element approximately 1/8 of a mile astern and stepped down and Lieutenant GROHNE approximately 1/2 mile behind and below the second element, and holding the second element at his one o'clock position, it would appear that Lieutenant GROHNE probably had been flying near the estimated altitude of 400 to 500 feet.

Inasmuch as Lieutenant GROHNE had personally specified that he would maintain a position relative to the basic formation, it would seem that he must have been contributing at least a considerable part of his attention to a visual lookout of the aircraft ahead. From the factors described, it is easy to visualize a condition of fixation or vertigo, or more likely, a condition where the instruments were not consulted for a period of time. At the distance from the other aircraft, under the conditions prevalent, it is very difficult to ascertain an altitude or attitude by visual reference to other aircraft. Further, as the squadron doctrine, which is considered

sound and which was adhered to in this case, dictates that only the last plane in each division maintains bright lights, it is possible that only two aircraft, the last in each element, were visible to Lieutenant GROHNE, and two separate aircraft from 1/2 mile is not a very good visual reference under conditions of darkness.

Discrepancies noted in Lieutenant (b) (6) testimony which mismatched altitude, rate of descent, and the approximate 15 second time element, can be accounted for due to darkness and lack of horizon. Interpretation of a slightly lesser altitude, slightly higher descent, a slightly longer time involved or a combination of any or all three would assist in verifying Lieutenant (b) (6) impression of the flight path of the stricken aircraft.

Due to the number of aircraft in the air and the confusion involved in rendezvous, much of Lieutenant GROHNE's time would probably have been attracted to conditions other than his own altitude; possibly additional over emphasis in a sharp look out at the expense of neglecting his instruments. At the time of the accident, flight without instruments or close reference to another aircraft such as a tight wing position, was impossible.

It is considered that Lieutenant GROHNE's efficiency may have been lessened through fatigue. However, he did have eight hours sleep ending eleven hours prior to take-off. His external appearance and manner did not indicate any fatigue. The disruption of the normal cycle could possibly have contributed to fatigue. This condition, though undesirable, is sometimes necessary in the execution of operational commitments.

33. Conclusions and Recommendations

A. Conclusions

Pilot error is believed to be the primary cause of this accident in that all evidence indicates that the pilot was flying visually during conditions in which flight through instruments was necessary, and there was no evidence of material malfunction.

B. Recommendations

1. It is recommended that all pilots be cautioned repeatedly on the necessity of continual reference to instruments, even while flying a wing and especially when flying a loose position during hours of instrument weather. Experience has shown that hours of darkness over water, where there is no substantial artificial lighting, flight is not possible without reference to instruments. It is imperative that a pilot be continuously aware of his position and altitude regardless of his position in a formation.

2. It is recommended that definite procedures for night rendezvous be established, including lighting, (external and recognition) areas, altitudes and a low ceiling alternate plan.

3. It is recommended that, whenever practicable, night rendezvous be affected at an altitude of 2000 feet or above.

4. It is recommended that in as far as practical, aircraft scheduled for night launches be spotted for launch as flights rather than launching aircraft in a random order, and that the "spot" for the launch be relayed to squadron ready rooms as early as possible for pilot assignment to aircraft. It is felt that this procedure would expedite rendezvous and minimize hazards and confusion inherent in night rendezvous.

5. It is recommended that the ISO be furnished with facilities to communicate with airborne aircraft who may not be on the land-launch frequency, such as a rapid means of switching to guard channel when necessary.

ORIGINAL

STATEMENT OF MAJOR (b) (6) (b) (6) USMC CONCERNING THE
AIRCRAFT ACCIDENT OF AD4B BUNO 128938

At 0330, 17 October 1955, I briefed an eight (8) plane flight for a support hop that included a pre-dawn launch. The hop consisted of a long-range special weapons strike by Lieutenant GROHNE accompanied by an eight (8) plane flak-suppression group. I was the leader of this group. The briefing was given by the intelligence officer, aerology officer, and myself after I had conferred with Lieutenant GROHNE concerning his special weapons portion of the flight.

The briefing for the first portion of the hop was as follows:

'The pilots were to take-off and fly upwind for two (2) minutes, execute a turn to the right and fly downwind to a point abeam of the carrier. At this point the first plane to arrive was to originate a gentle rendezvous orbit to the left at 1000 feet of altitude. The following aircraft were to join-up in two (2) divisions, one behind the other, as they arrived at the rendezvous point. Lieutenant GROHNE said that he would remain a little wide so as not to interfere with the rendezvous of the other eight (8) aircraft. After the necessary radio communication had been made, whoever was the lead pilot was to head out on the assigned course. After settling down on this course, the flight would readjust itself, one plane at a time, into its assigned order. After this had been accomplished Lieutenant GROHNE would be the lead plane for the whole flight and the other two (2) divisions would take position behind him.'

The take-off and rendezvous proceeded as scheduled. It was hindered by a relatively large number of other AD type aircraft rendezvousing in the general vicinity. I executed my own take-off and joined-up on three other aircraft from my own flight. These aircraft were flown by Lieutenant (b) (6) in the lead, Lieutenant (b) (6) on his wing and Lieutenant GROHNE behind him. I did not know who were in these aircraft at this time. As I joined-up, Lieutenant GROHNE moved off to a loose position (about 200 feet) to the right and rear. About this time Lieutenant GROHNE made a radio transmission in which he gave his position and I then knew that the plane to my right rear was he. I do not remember the exact words of the transmission. Shortly after this I heard Lieutenant GROHNE identify himself and say that he was switching to another frequency as he had been directed by the ship. I 'rogered' for the information and felt no concern as to his condition or position. After the flight had finished rendezvousing and had received permission to start on its assigned mission, I attempted to contact Lieutenant GROHNE on his last assigned channel. Having no success, I tried several other frequencies including 'guard' frequency. As I still could not contact him, I asked the ship if they had contact with him as I did not want to proceed without him. The ship said that they had no contact with him and that there had been reports of a plane in the water. I offered the services of my flight for a search if they so desired but was told to proceed on the mission with my flight.

It was not until I returned approximately six (6) hours later, that I learned for certain what had happened.

(b) (6)

EXPERIENCE:

Total hours	3038
Total AD hours	462
Date designated	April 1944

Enclosure (1) to WMA-324 AAR 11-55 of 17 October 1955

ORIGINAL

STATEMENT OF SECOND LIEUTENANT (b) (6) (b) (6) USMCR
CONCERNING THE AIRCRAFT ACCIDENT OF ADAB BUNO 128938

I was scheduled as number two man in a flight of eight aircraft due to support Lieutenant Richard R. GROHNE on his special weapons strike. We were briefed prior to the flight that rendezvous would be executed at 1000 feet on the starboard side of the ship, approximately 3-4 miles distance. The briefing included that the first plane over this said position would set up a left hand orbit. I took off, proceeded to the rendezvous area and although there were many aircraft in the area, I could see no one at 1000 feet in a left hand orbit. Finding this situation, I set up the rendezvous pattern. After one complete pattern, I observed two aircraft joining me. After completing another 180° of the rendezvous circle, I was called by Lieutenant GROHNE, using the call sign Sugar I, saying that he was joining from the right. I "rogered" his transmission. I observed Lieutenant GROHNE off my right wing approximately 200 feet, flying a loose formation. Lieutenant GROHNE stayed in this position for 2 or 3 orbits. As the flight was approaching the ship from the forward starboard side, still in the rendezvous circle, Lieutenant GROHNE called stating that he was going to button 8 as he had been instructed by the ship. This was the last time I was in contact with Lieutenant GROHNE.

(b) (6)

EXPERIENCE:

Total hours	692
Total AD hours	456
Date designated	16 September 1954

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ORIGINAL

ORIGINAL

STATEMENT OF FIRST LIEUTENANT (b) (6) (b) (6) USMCR
CONCERNING THE AIRCRAFT ACCIDENT OF AD4B BUNO 128938

The briefing for this flight commenced at approximately 0330, one hour prior to launch time. The following pertinent facts were covered in the briefing.

(b) (5)

(b) (5)

In order to facilitate the rendezvous in the darkness, Lieutenant GROHNE stated that after he had joined up on the flight, he would slide out to the side, thereby, keeping clear of the divisions of which he was not an integral part.

The launch occurred without incident, and I proceeded to the prescribed area for rendezvous. This was abeam of the ship on the starboard side, at one thousand feet. I was the first plane to rendezvous on what turned out to be Charlie one-2, (Second Lieutenant (b) (6)). I observed a third plane coming in and he identified himself as Sugar one (Lieutenant GROHNE). As I saw him pass behind, I turned my lights to dim. Shortly after, Lieutenant GROHNE called and stated that he was going to channel eight, the strike control frequency.

When the fourth plane (Major (b) (6)) came close in his rendezvous, I turned to look and see what the position of the plane on my wing was. I did not see him, but inasmuch as Lieutenant GROHNE had stated in the briefing that he would rendezvous to the outside, I thought nothing of it.

When all eight aircraft of the strike group were rendezvoused, we switched to button eight, and the flight leader called for clearance to proceed on the mission. This clearance was granted, but we were told to double check the presence of all aircraft, as a plane had been reported in the water. All eight support planes reported, but Sugar One could not be reached on any channel, including guard. The flight leader asked if our flight was desired for search, but the reply was to proceed on the mission.

After I saw him cross behind me in the rendezvous, I did not look at Lieutenant GROHNE again due to the fact that I wanted to maintain a good wing position in the darkness. I do not know at what time he left the formation, nor if he was experiencing any difficulty.

In regard to the possibility of pilot fatigue being a factor, living in the same cubicle of the bunk room as Lieutenant GROHNE, I can state the following. From 0800 Saturday, 15 October, until 0800 Sunday, 16 October, Lieutenant GROHNE was squadron duty officer. Since pilots were up late planning their flights and flight quarters was to be sounded at approximately 0230 on 16 October, Lieutenant GROHNE remained overnight in the ready room. Shortly after being relieved at 0830 on 16 October, Lieutenant GROHNE retired, and slept until time for the evening meal, at 1700 hours. I do not know if he slept following the meal, but he was in bed at the time we were called to commence flight planning for the hop on 17 October.

(b) (6)

EXPERIENCE:

Total hours	776
Total AD hours	532
Date designated	22 September 1954

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Enclosure (3) to VMA-324 AAR 11-55 of 17 October 1955

ORIGINAL

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STATEMENT OF LIEUTENANT (b) (6) USN CONCERNING THE AIRCRAFT
ACCIDENT OF AD4B BUNO 128938

Following the 0430 launch, I was standing by on the LSO platform waiting until all aircraft were rendezvoused and that no emergency landings were forthcoming.

By listening to the LSO radio, I understood that the aircraft were having some difficulty in locating one another because of the numerous aircraft in the vicinity of the carrier. Finally, I heard one flight leader report all aircraft joined up and departed the ship.

The remaining rendezvousing flight was in a left hand orbit off the port quarter of the Lake Champlain. Several were apparently joined up, while the remainder were trailing behind joining up. I noticed the last aircraft gradually losing altitude as its course became approximately parallel to the ship's course. As it continued to become lower, I commenced calling to the effect "last AD on rendezvous check your altitude you are low, etc". I called continuously for about five to eight seconds before the aircraft's bright flashing lights disappeared. At this time I would estimate that the plane was from 3/4-1 mile from the ship.

I immediately notified Primary Fly that there was a plane in the water off the port quarter and proceeded up the deck to report in person to the Air Officer.

I might add that this is the third time at night other than during an actual recovery that I have been on the LSO platform with a radio when I have witnessed apparent cases of pilot vertigo. One pilot was aided by the LSO on the radio and a probable water crash avoided. In the other two cases, including this one the LSO was unable to contact the pilot, probably because of conflicting radio frequencies.

In my opinion, a cheap investment would be a separate ARC-27 radio installed at the LSO platform which could easily be switched to guard frequency for just such circumstances as described herein.

(b) (6)

LT, USN
Landing Signal Officer CVG-6

EXPERIENCE:

Total hours	1900
Date designated NA	July 1944
LSO Experience	9½ years

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ORIGINAL

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STATEMENT OF FIRST LIEUTENANT (b) (6)
CONCERNING THE AIRCRAFT ACCIDENT OF AD4B BUNO 128938

USMC

AD4B aircraft, Bureau Number 128938, had flown 13.1 hours since the third intermediate inspection after the second major inspection prior to the flight in which the accident occurred. It had a total of 341.6 hours this tour and total of 945.7 hours since acceptance by the Navy. The engine had a total of 425.2 hours since acceptance by the Navy. There were no overhauls on the engine. Examination of aircraft and engine logbooks and past discrepancy reports, revealed no history of malfunction of aircraft or engine. It is the opinion of this officer that the aircraft and engine were mechanically sound at the time of the accident.

(b) (6)

EXPERIENCE:

Thirteen years in Aircraft Maintenance
Three and one-half years as Aircraft Maintenance Officer

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ORIGINAL

ORIGINAL

STATEMENT OF LIEUTENANT JUNIOR GRADE (b) (6) USN
CONCERNING THE AIRCRAFT ACCIDENT OF AD4B BUNO 128938

I had the air control duty on the morning of 17 October 1955. After take-off SI, (Second Lieutenant GROHNE's call sign), was shifted to channel 8, which was the assigned strike control frequency. I conducted a radio check on button 8 with Sugar One and the results were good. SI stated that he was shifting back to button 7, land launch frequency, to contact the leader of the flight that he was to join. Approximately 10 to 15 minutes later, I received another call from Sugar One on button 8, that he was joining on "Charlie One's", (Major (b) (6) call sign), flight. He also stated that he was remaining out board of the flight until the flight had completed its rendezvous. This was the last radio transmission between myself and Sugar One. Since it was a night rendezvous, quite a period of time was required for the flight to join. I estimate it took approximately 30 minutes from the time the aircraft took off until Charlie One reported his flight was joined and he was proceeding on course. About the same time it was reported that the LSO had seen an aircraft go into the water. At this time, I called all flights to double check that everyone was accounted for.

(b) (6)

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Enclosure (6) to VMA-324 AAR 11-55 of 17 October 1955

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STATEMENT OF LIEUTENANT (b) (6) (b) (6) USN
CONCERNING THE AIRCRAFT ACCIDENT OF ADLB BUNO 128938

I was a member of a flight of 9 VA-25 AD aircraft scheduled for a launch at 0430, 17 October 1955. This was part of a launch composed of our nine aircraft, nine AD aircraft from VMA-324, two AD5N from VC-33 and one AD5W from VC-12, a total of twenty-one AD aircraft. Of this total, three VA-25 and the one AD5W from VC-12 did not get airborne. The sequence of events is as I deduced from various radio transmissions and subsequent investigation. The launch commenced normally, but was delayed somewhat by a minor deck accident which resulted in the downing of two of our aircraft. Our third aircraft had not been fueled.

The aerologist briefed us prior to take-off to expect thunderstorms in the launching area and port way to the target area. He was right. The night was very dark, no moon or stars visible and no horizon. There was a broken ceiling at about 2300 to 2500 feet. There were numerous very intense thunderstorms in the area, with frequent brilliant lightning which somewhat impaired night vision. However, the air in the rendezvous area was relatively smooth. Visibility good with no precipitation. I do not consider the weather sufficiently adverse to cancel the mission. We had briefed to rendezvous at 3000 feet. The flight leader called us after launch to rendezvous at 2000 feet over the ship.

My impression of the overall rendezvous for the entire group was one of considerable confusion. There were aircraft at all different altitudes up to the ceiling. It was very difficult to determine which aircraft belonged to which flight. Our flight was rendezvoused about 15 minutes after take-off. However, it was approximately another ten minutes before we could get a launch report and know that we had only six aircraft airborne. We then received clearance to proceed on our mission which we did, staying clear of thunderstorms enroute. Radio transmissions seemed excellent during the rendezvous.

(b) (6)

EXPERIENCE:

Total hours	2650
AD hours	900
Date delegated NA	November 1944

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OFFICIAL WEATHER REPORT FOR 0400Z 17 OCTOBER 1955

Cloud Coverage	0.6
Cumulus	0.3 @ 2000'
Alto cumulus	0.2 @ 9500'
Cirrus	0.1 @ 125000'
Visibility	10 miles
Wind	SW10
Altimeter	29.88
Temperature (dry bulb)	72
Temperature (dew point)	62

(b) (6)

(b) (6)

AEROLOGICAL EXPERIENCE 1½ years

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Enclosure (8) to VMA-324 AAR 11-55 of 17 October 1955

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